

Figure 1: Self Addressing Microlocations  
(Microlithographic Fabrication)

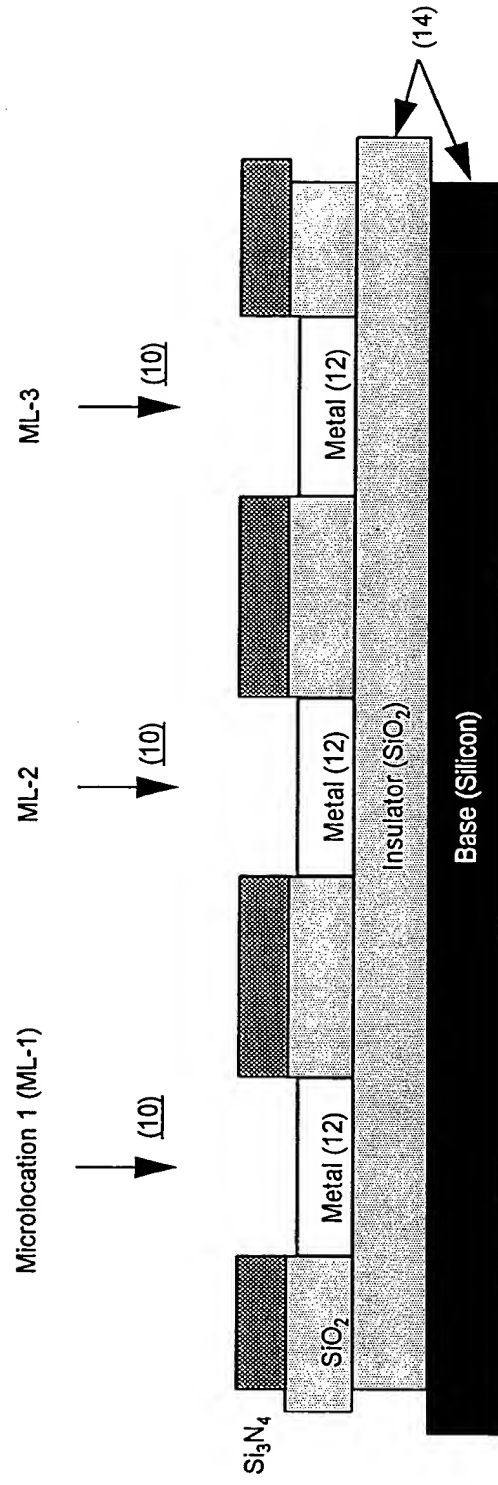


Figure 2: Microlocation Design Features

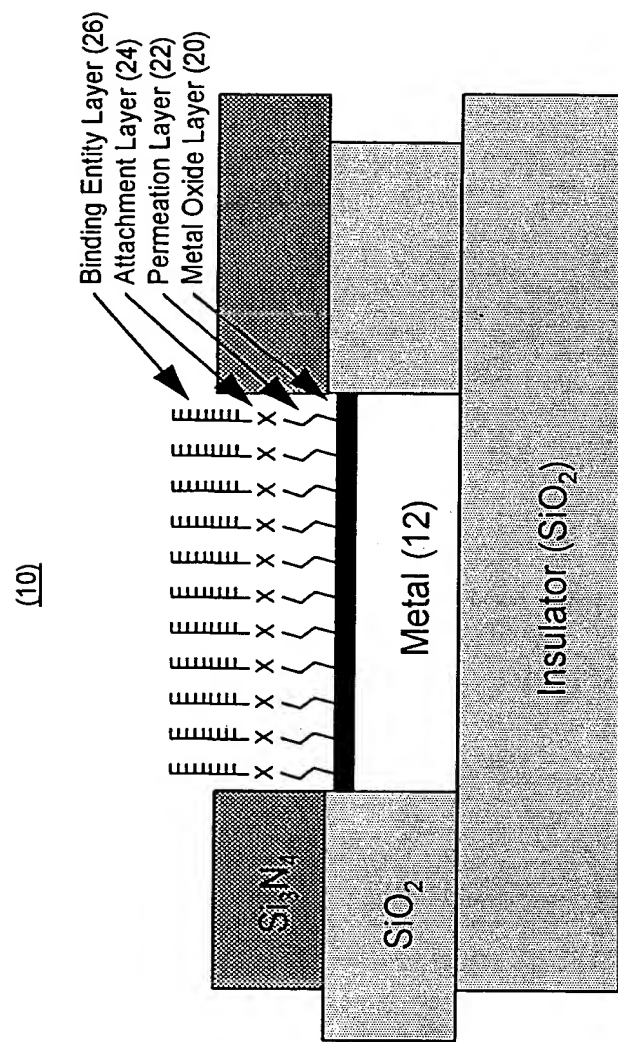
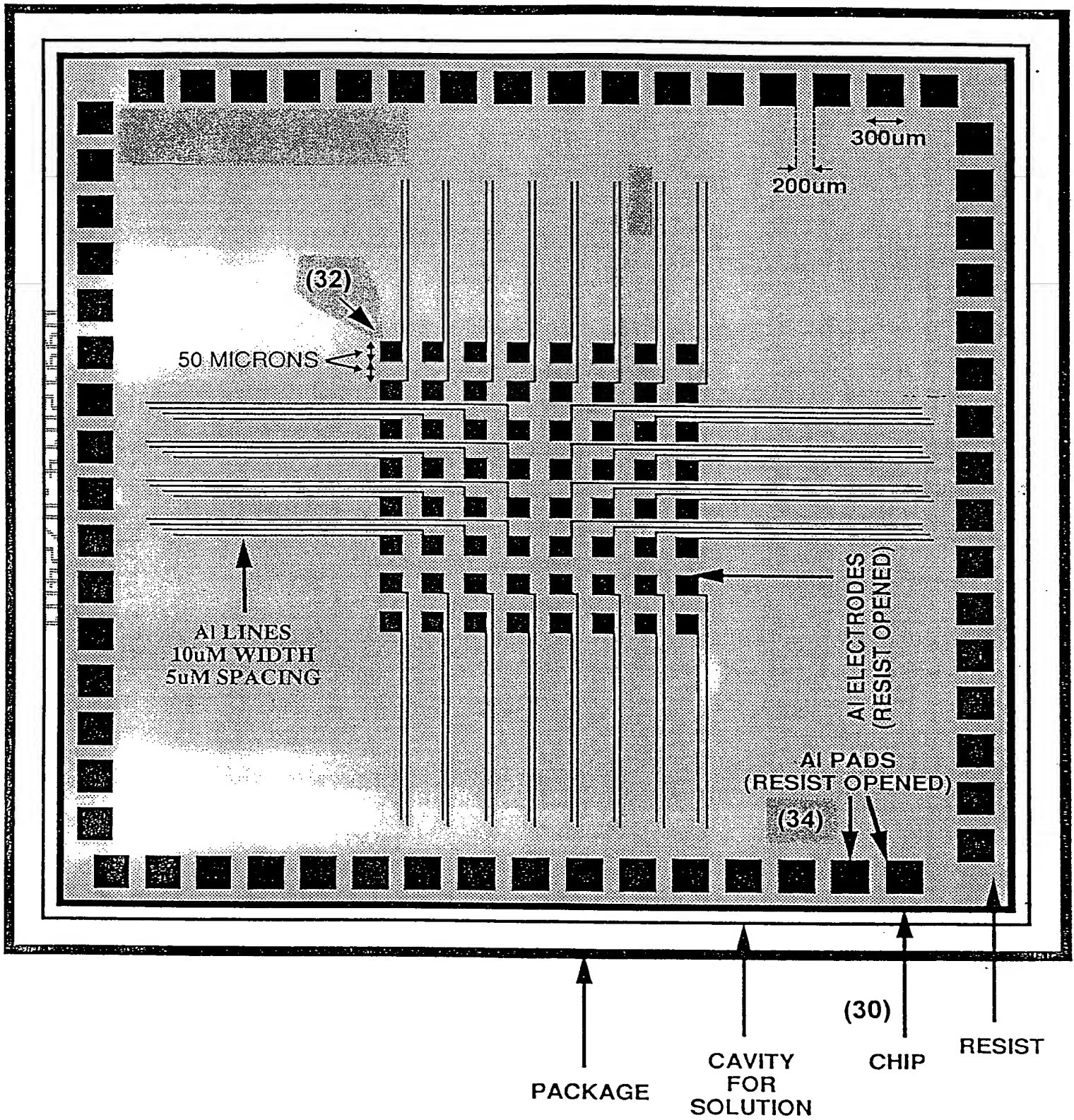


Figure 3: Self-Addressable 64 Microlocation Chip



CHIP LAYOUT

Figure 4: DNA Attachment Chemistry

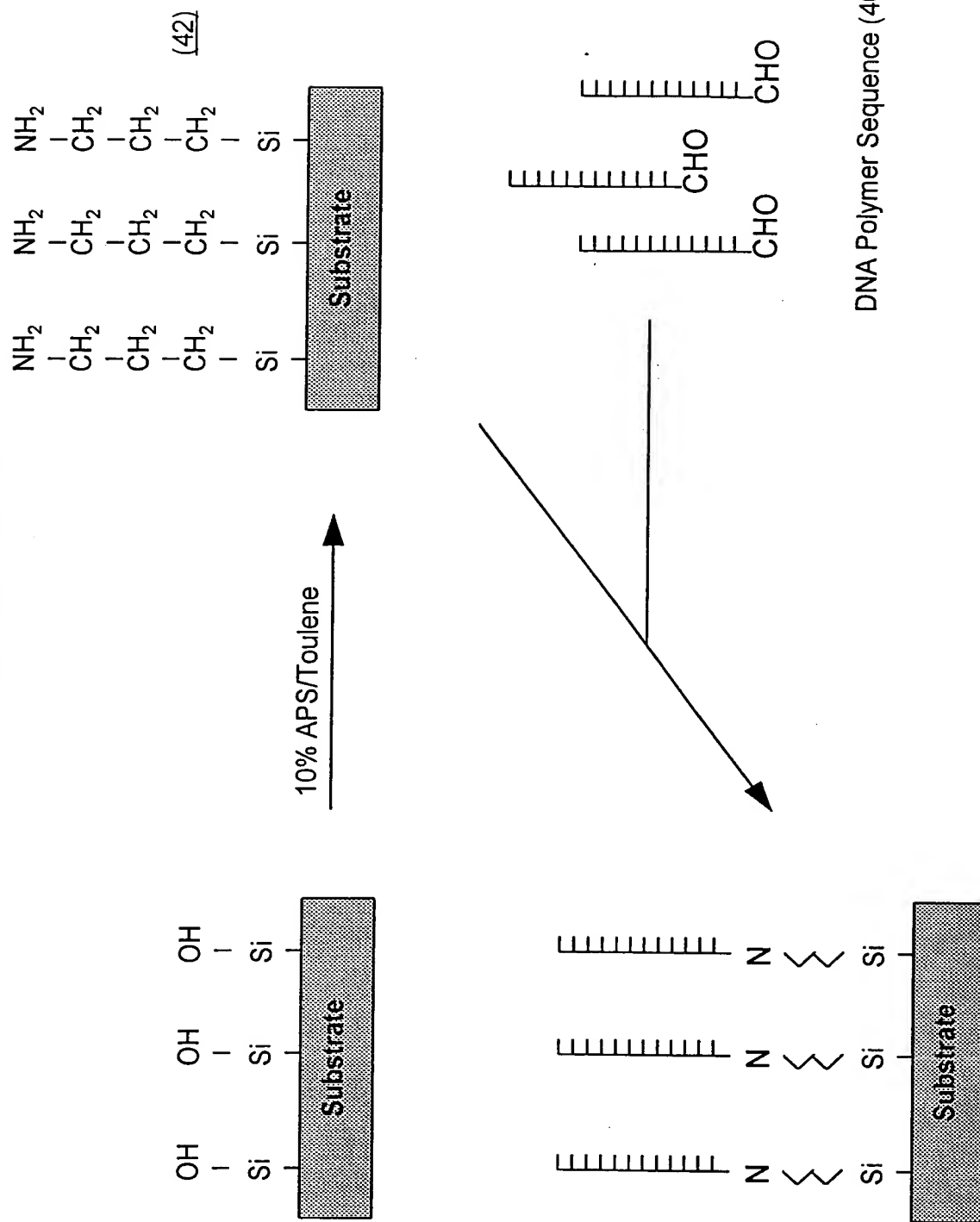


Figure 5: Micro-Machined Device (Exploded View)

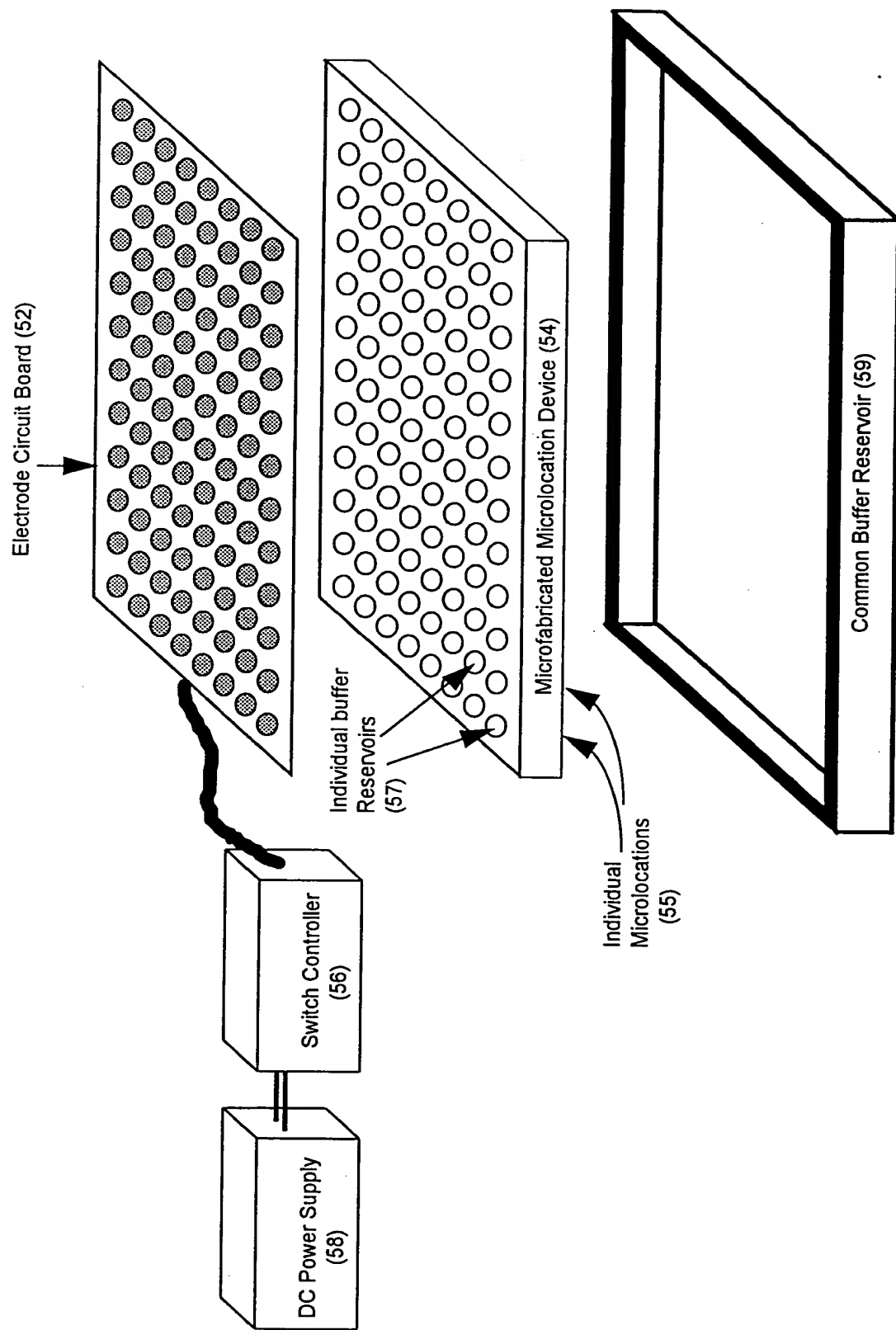


Figure 6: Micro-Machined Device (Cross-Section)

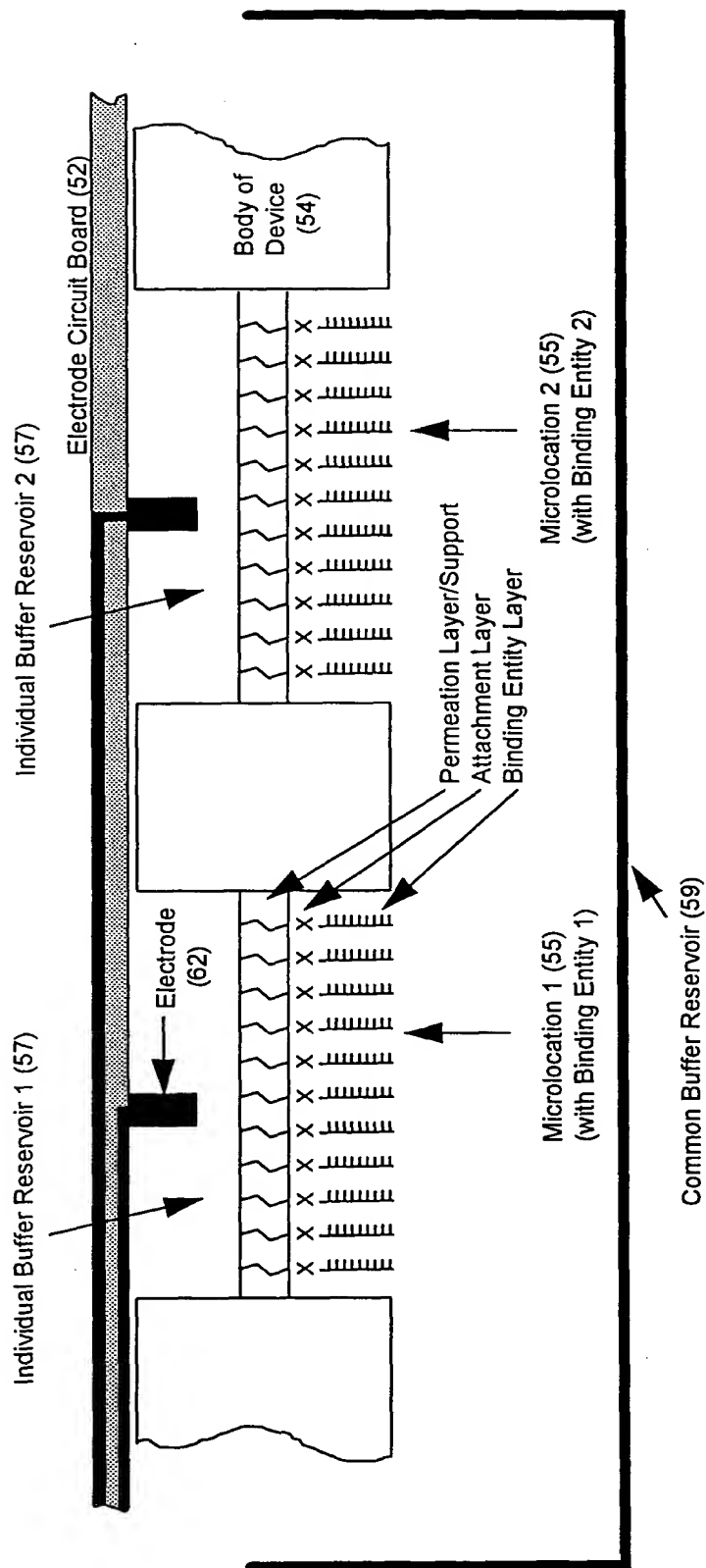


Figure 7: Electronically Controlled Concentration Effect

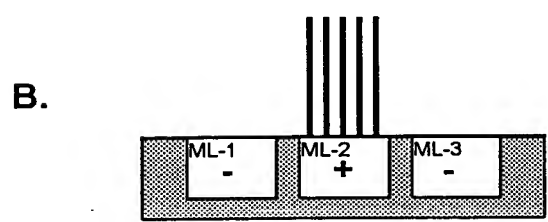
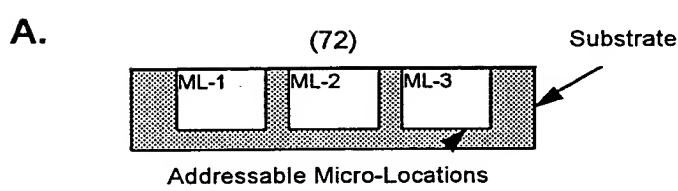
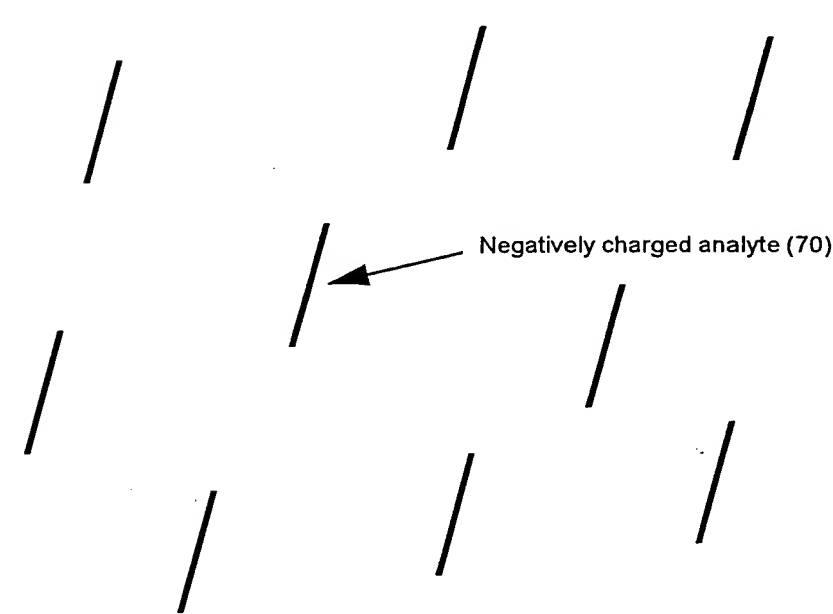
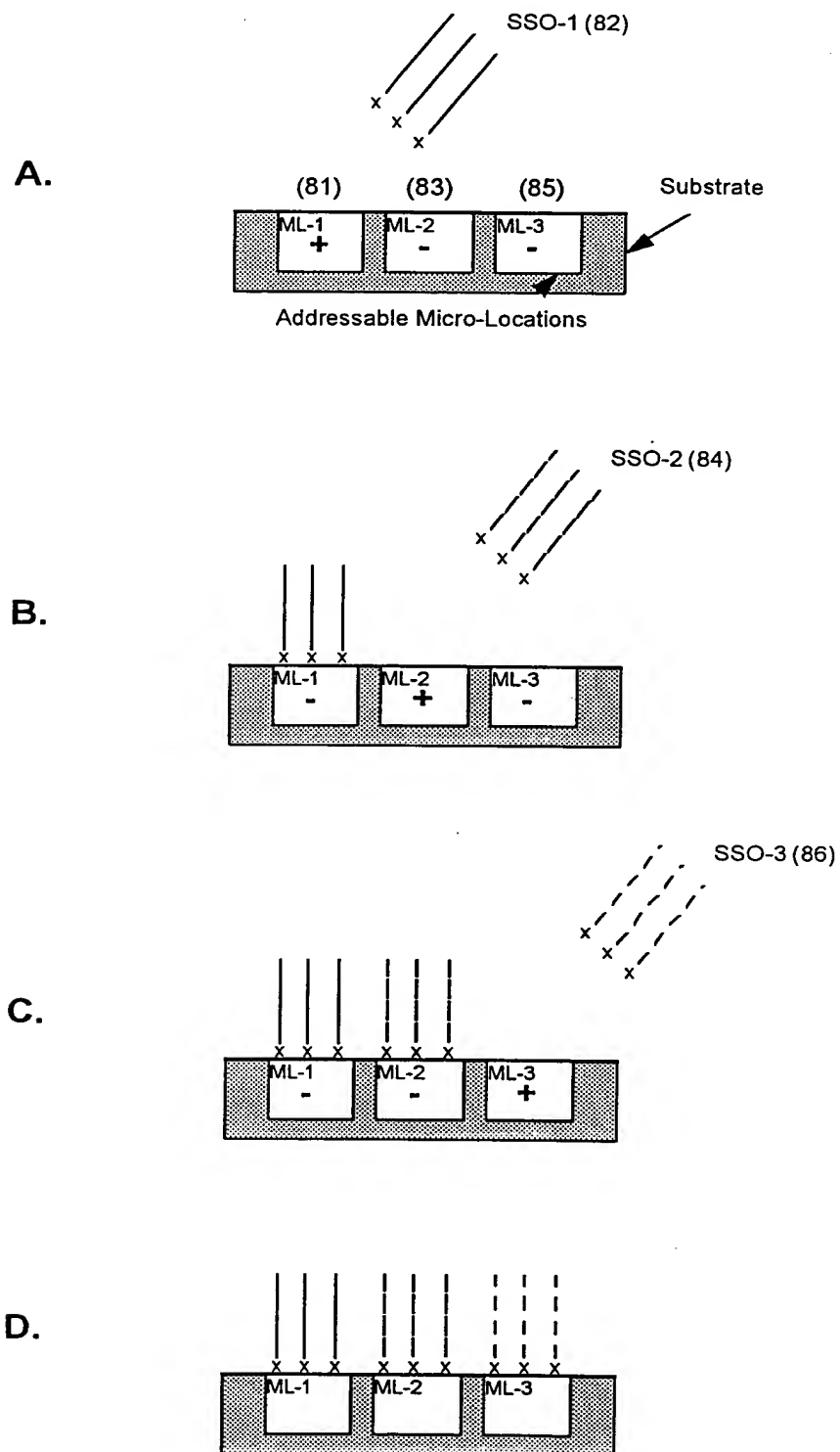


Figure 8: Electronic Addressing and Self-Directed Assembly of Device.

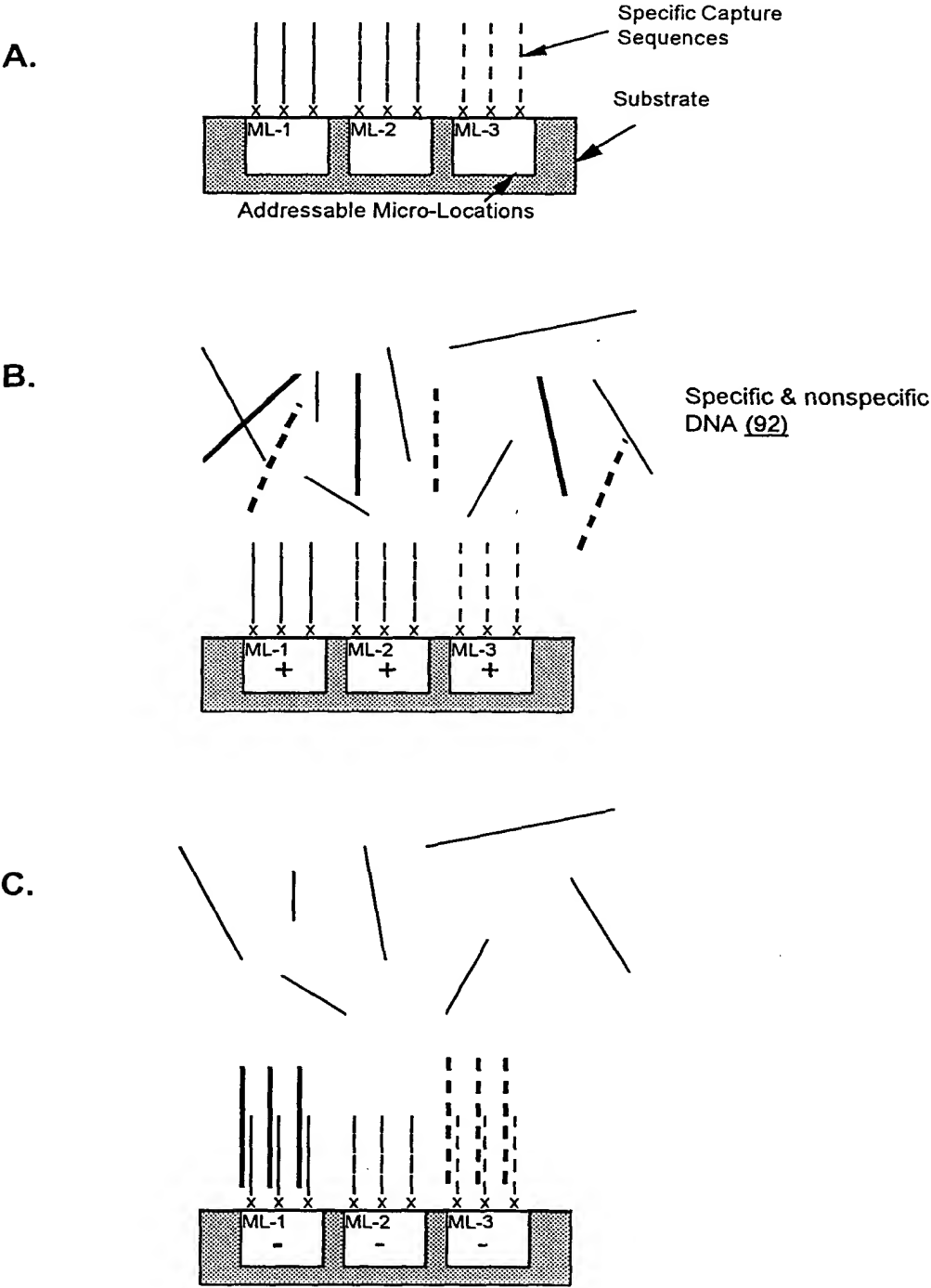


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Figure 9: Electronically Controlled Hybridization Process

(90)



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Figure 10: Electronically Directed Serial Hybridization Process

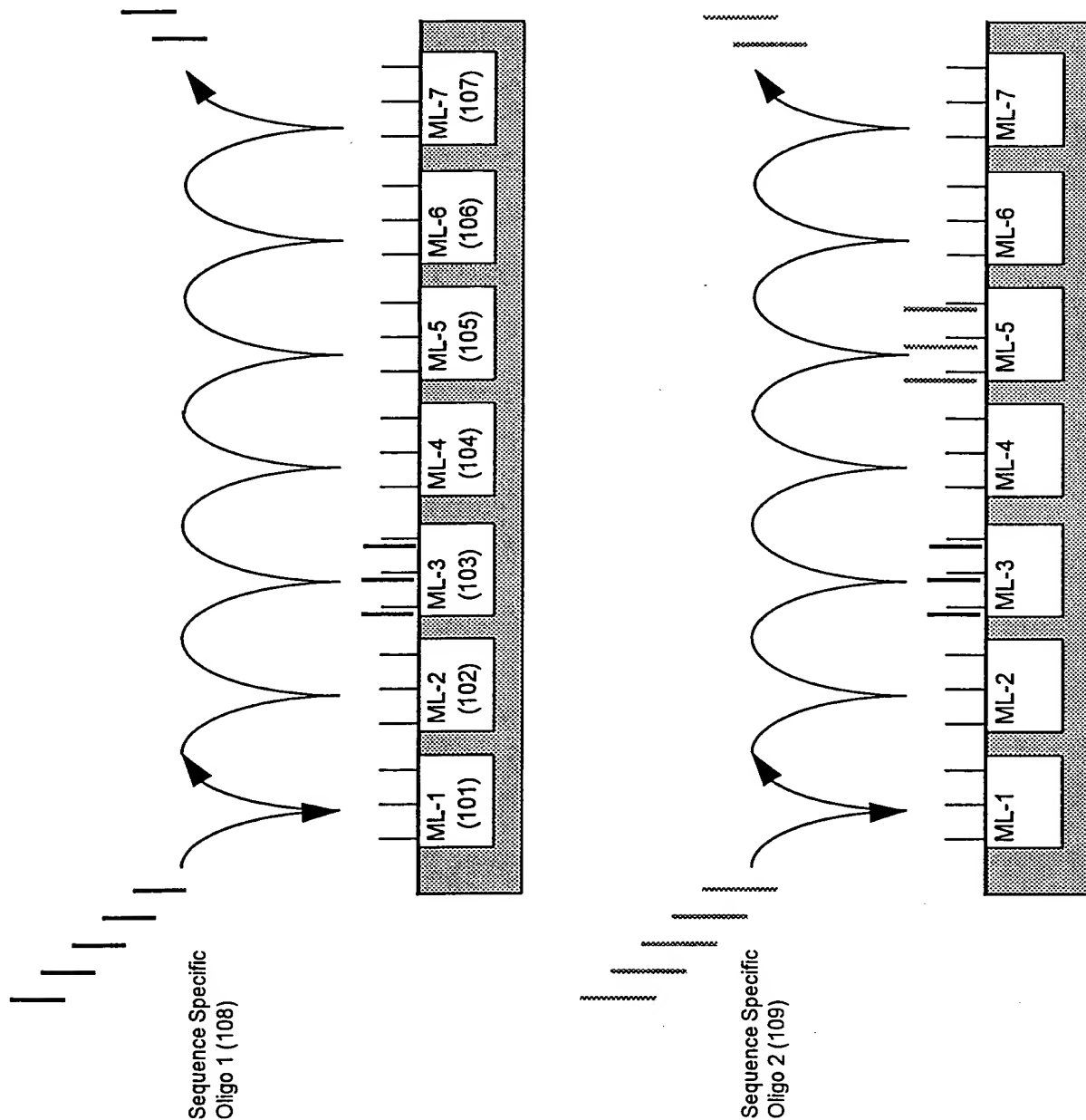


Figure 11: Electronic Stringency Control (ESC) of Hybridization Process

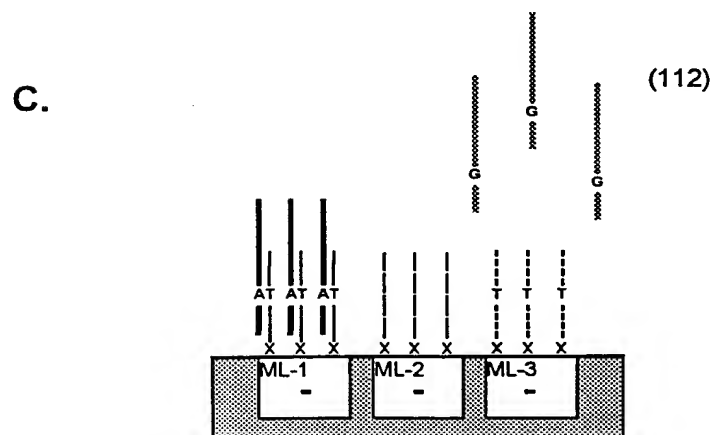
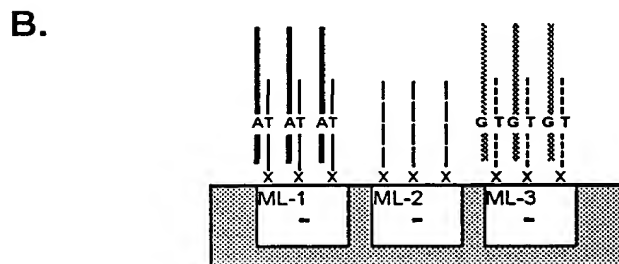
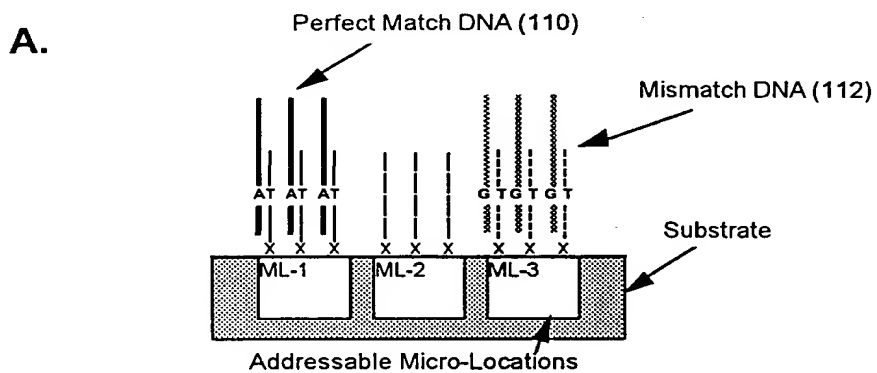


Figure 12: Electronically Controlled Fluorescent Dye Detection Process

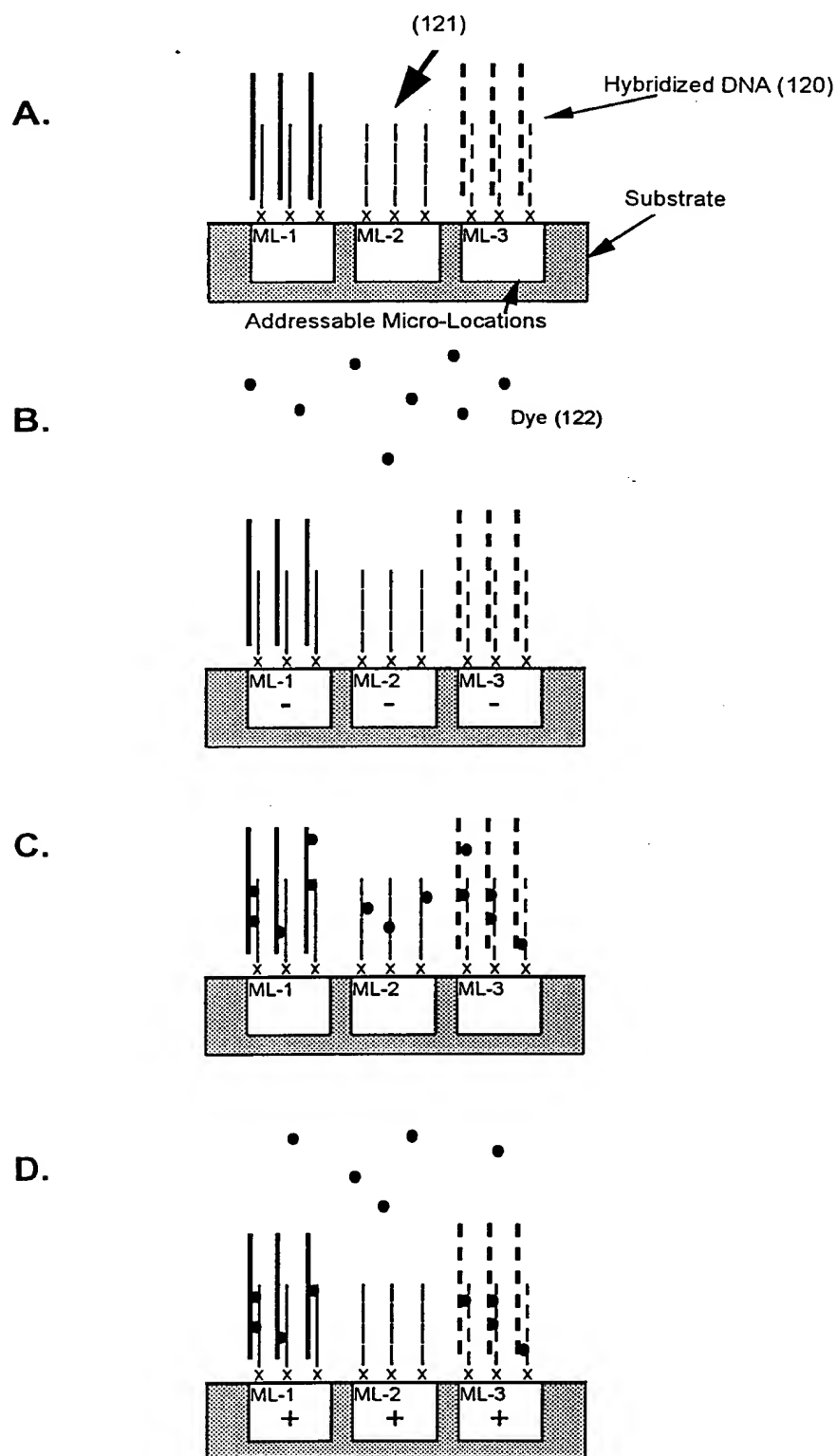


Figure 13: Electronically Controlled Template Replication

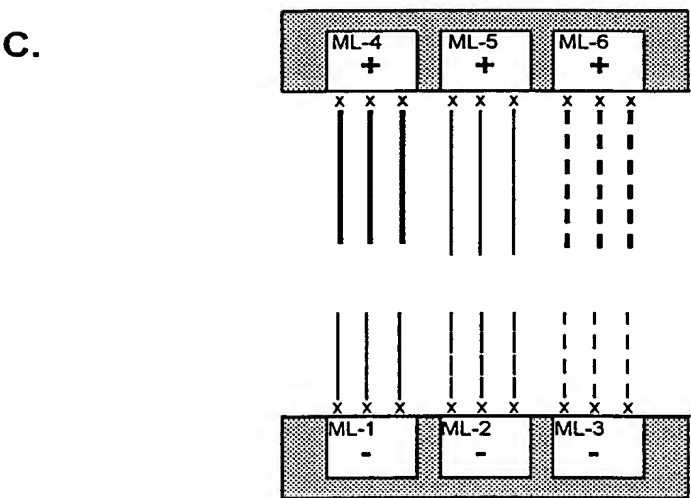
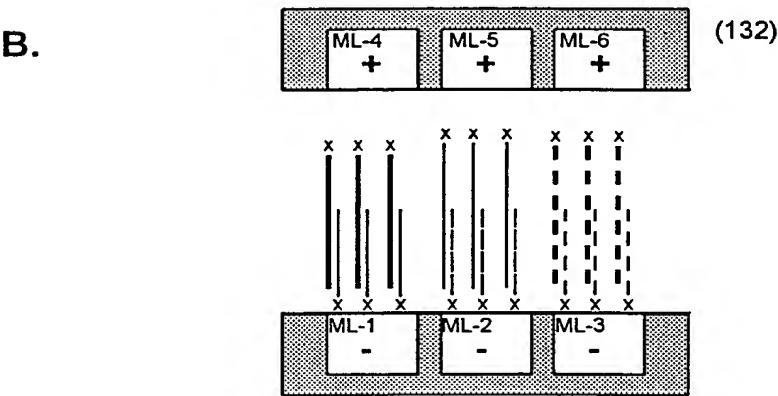
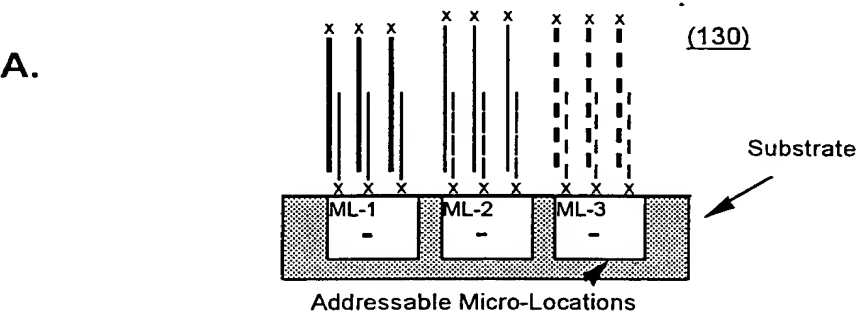
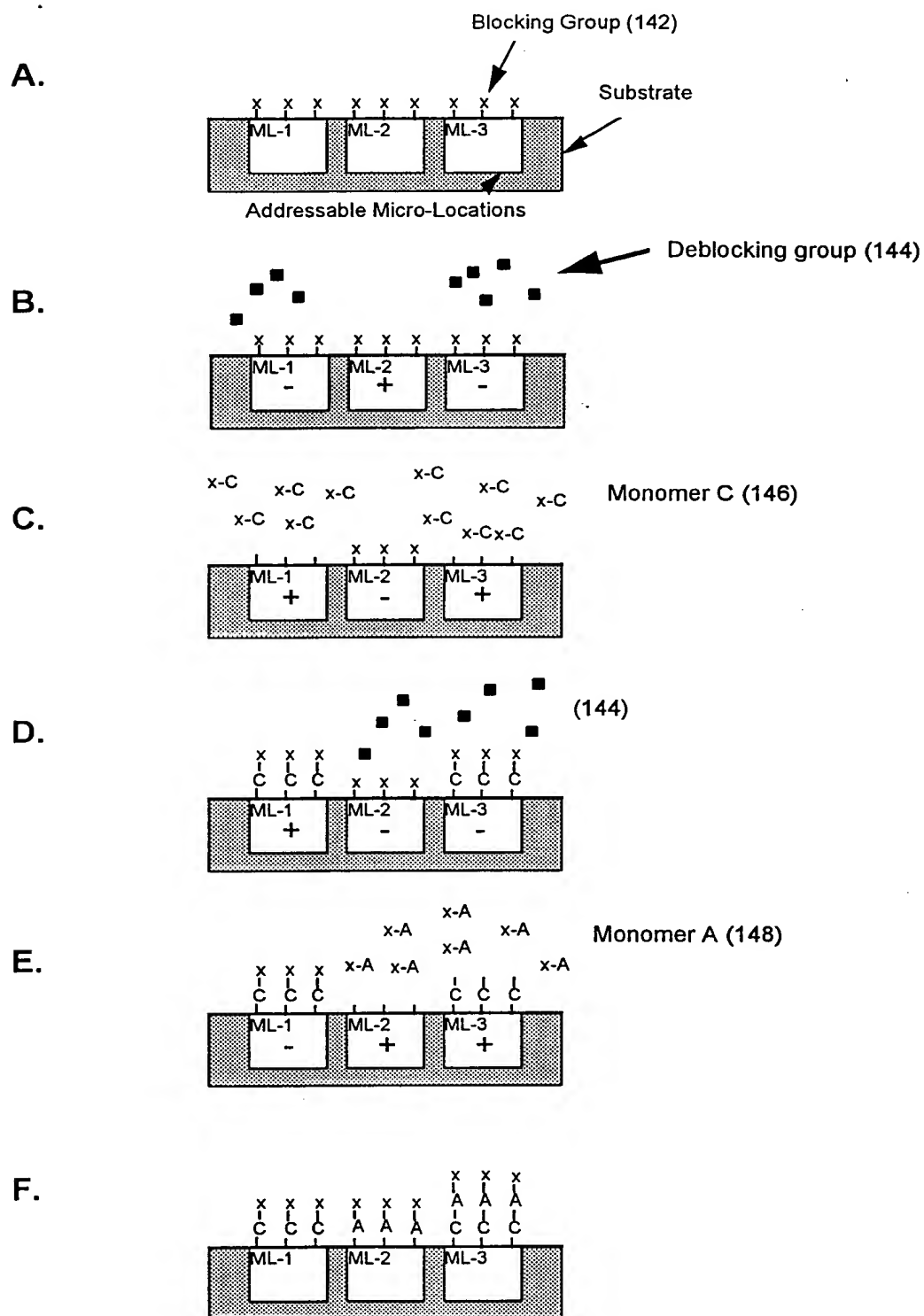


Figure 14: Electronically Directed Combinatorial Synthesis.



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# Relative Sensitivity for Mismatch Discrimination

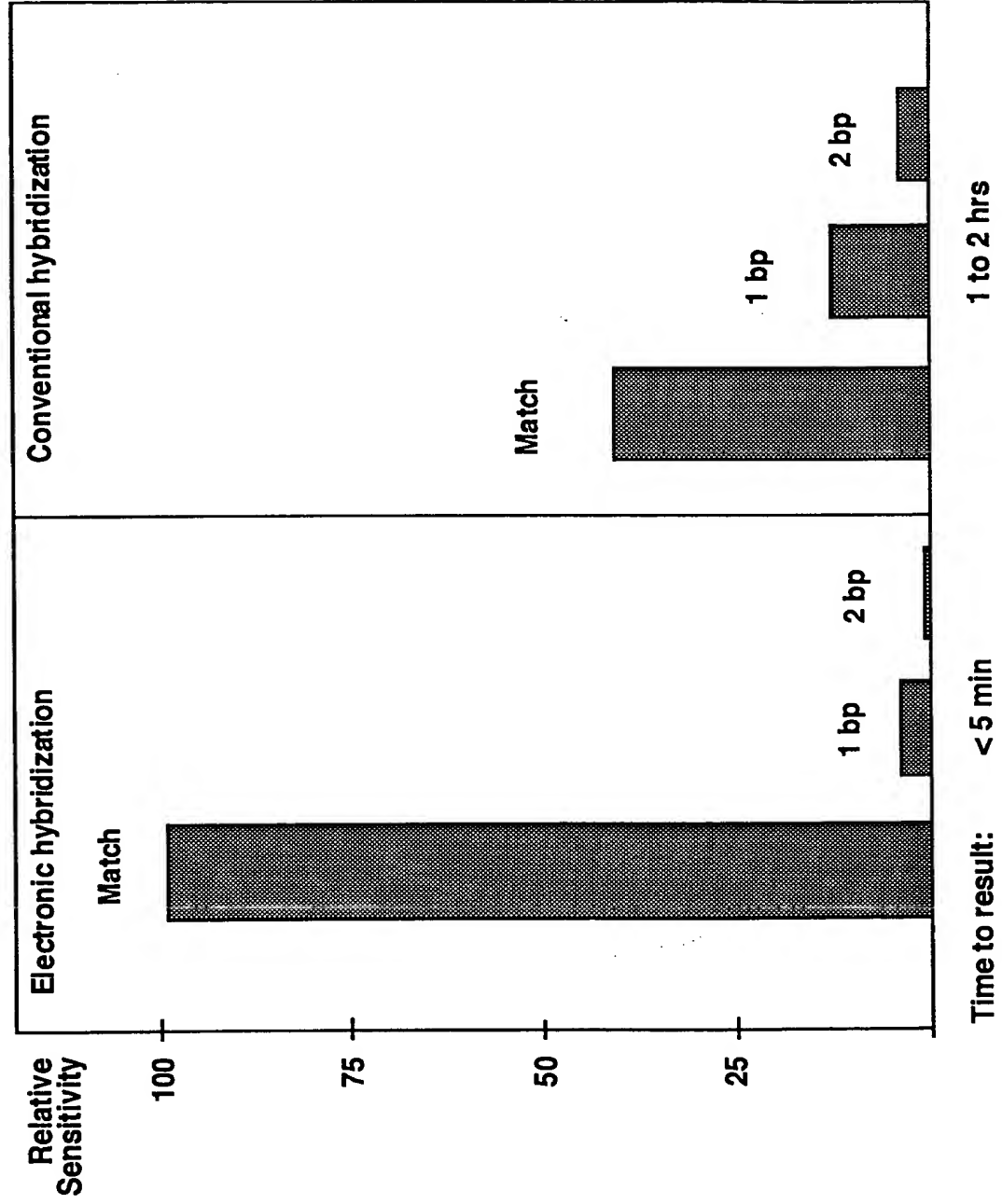
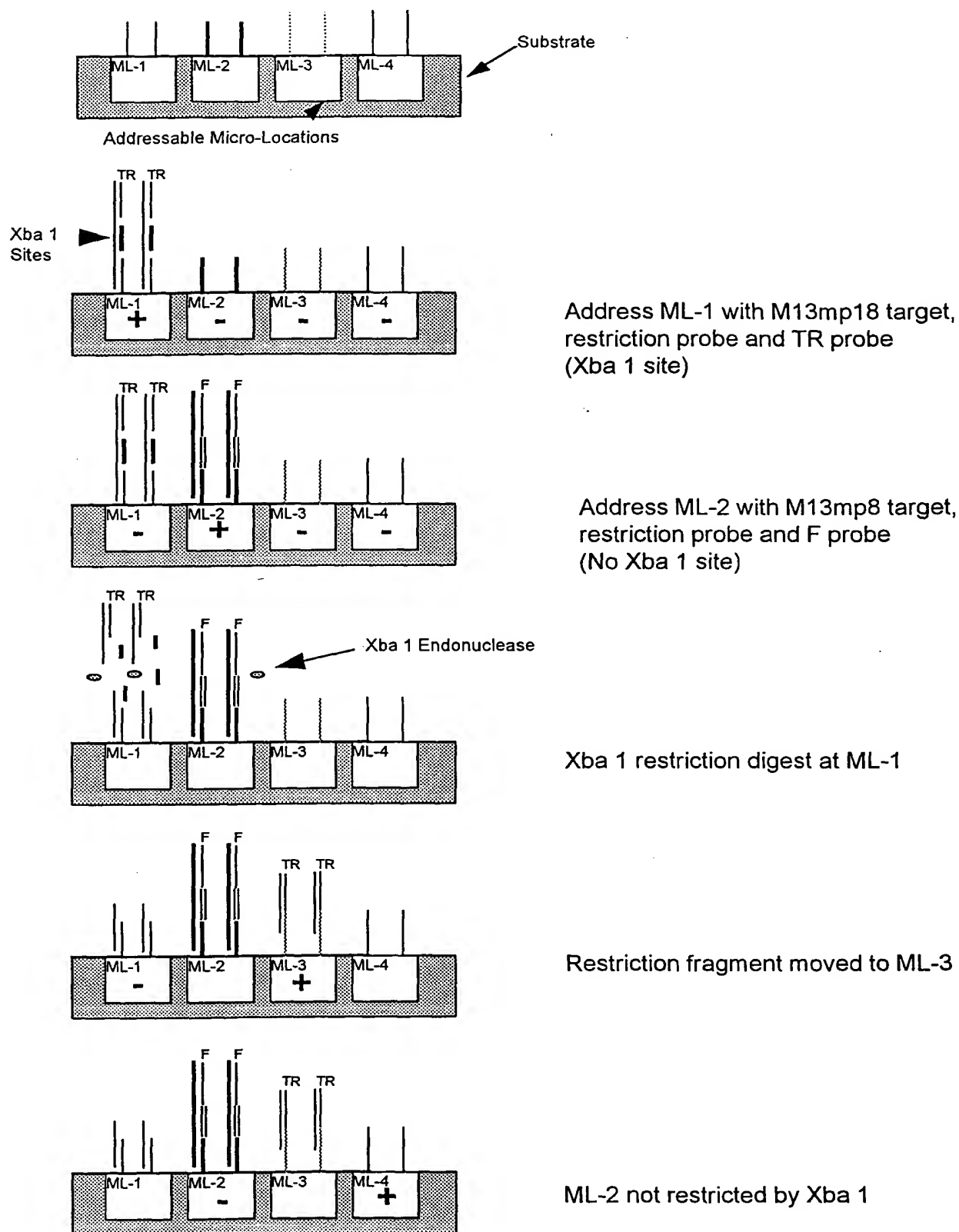


Figure 16

# Electronic Restriction Cleavage



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Figure 17

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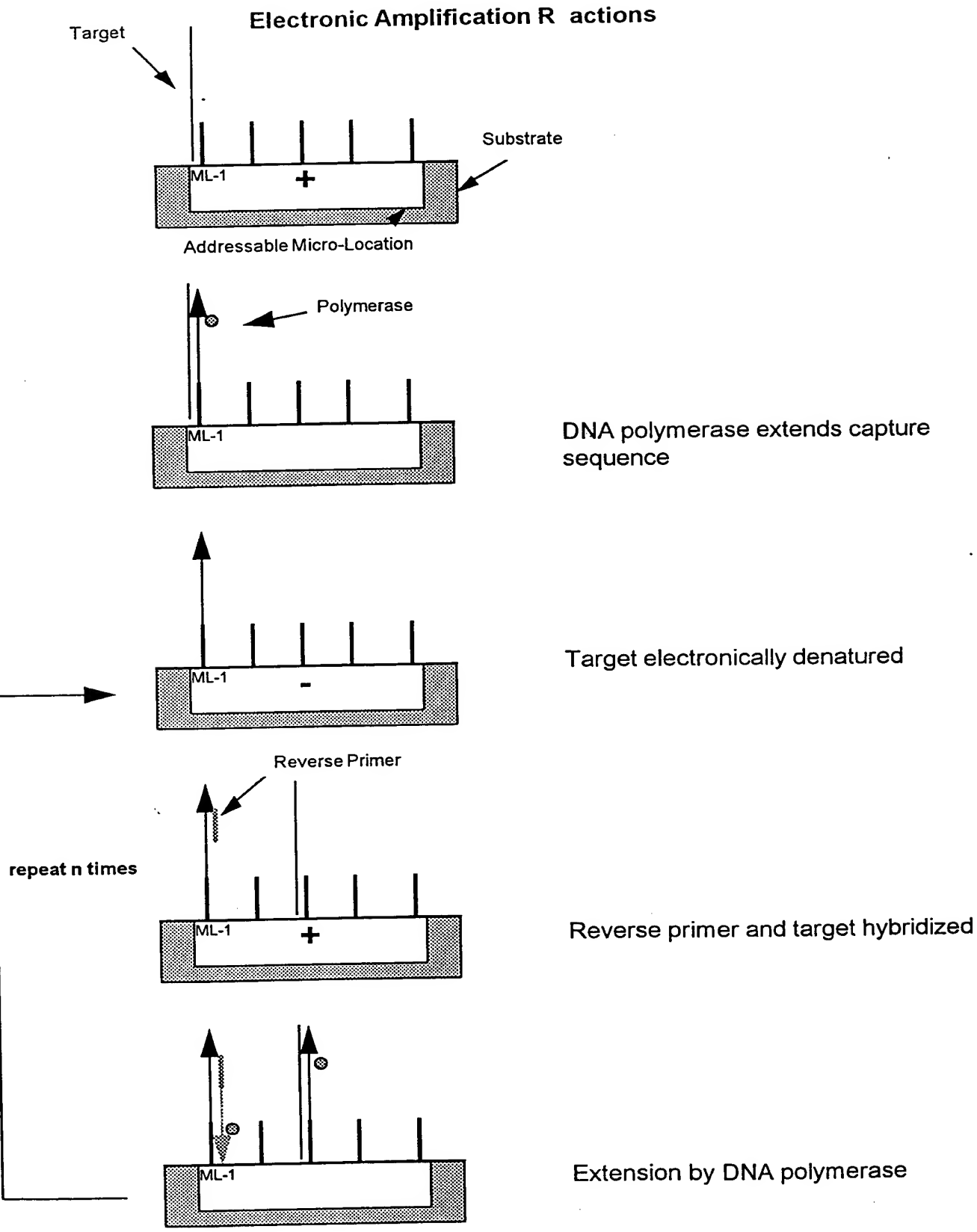
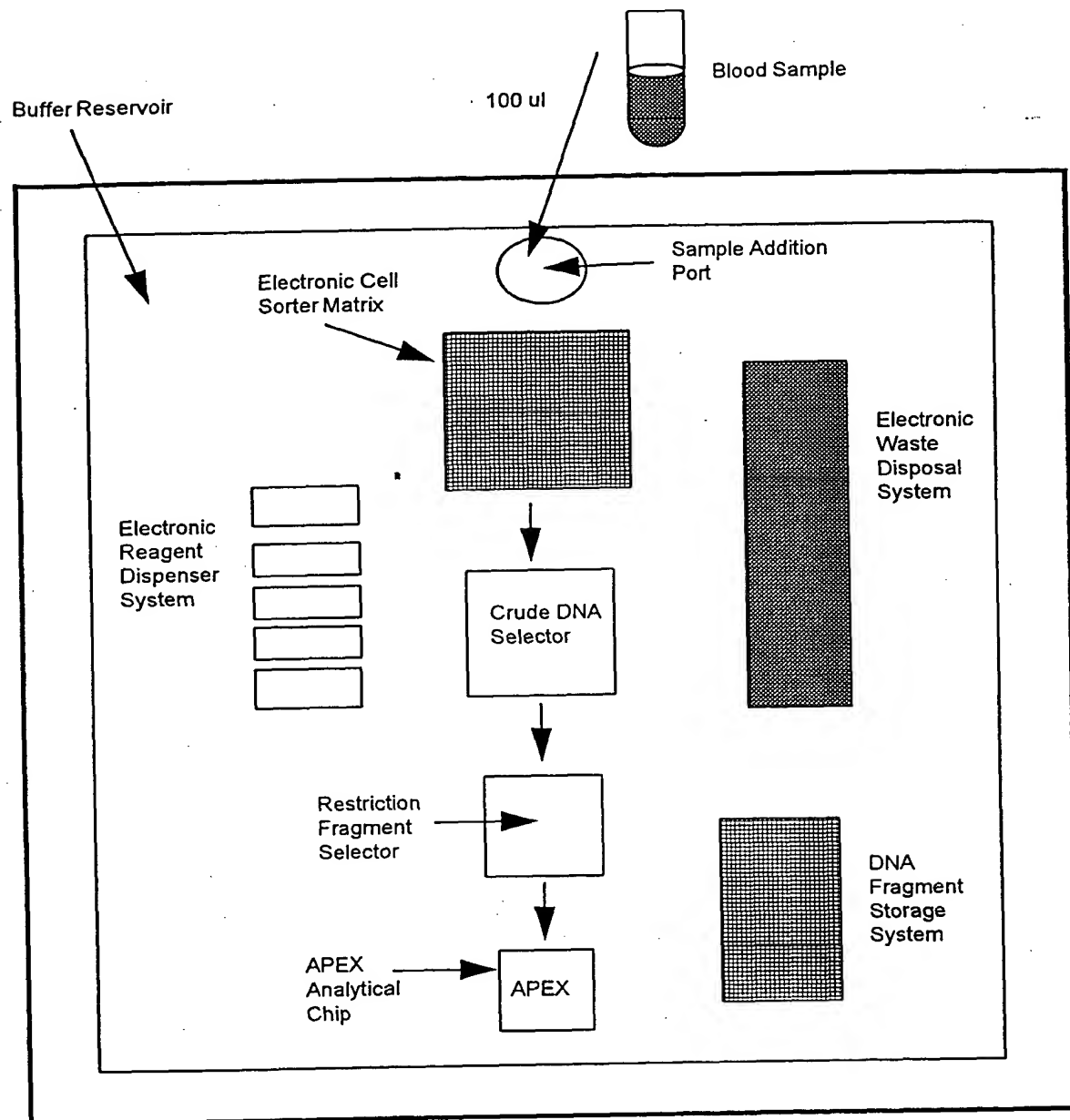


Figure 18

Complete APEX System with Sample Preparation



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